

1 **Claims Amendment**

2 **Claim Listing:**

3 Claim 1 (original): An electronic circuit system named Mobile Safety Communication
4 (MSC) device embedded into a rearview/side mirror of a vehicle comprising:
5
6 a GPS receiver circuit module with a planar antenna;
7 a wireless Communication circuit module with a planar antenna and a USB
8 interface;
9 a plurality optical lenses and CCD/CMOS sensors with single JPEG/MPEG
10 compression circuit module and a USB interface;
11 a RISC CPU based central control module circuit having a plurality of
12 UART serial control ports, a plurality of USB device control ports, a
13 plurality of USB host control ports, an Ethernet network ports, a
14 DRAM and Flash Memory controllers, and the central control
15 processor executing MSC software;
16 a Real-time clock with battery;
17 a Smart Card Access host electronics module;
18 a Flash memory storage;
19 a Lithium-ion battery;
20 vibration and motion sensor/gauge with a micro-controller;
21 both USB Host and USB Device outlets;
22 Ethernet Communication outlet;
23 wherein all of these electronics circuit modules soldered in a PCB and
24 embedded into the rearview or side mirror of a vehicle.

25
26 Claim 2 (original): The Mobile Safety Communication (MSC) device according to claim 1,
27 further molded into stand-alone unit is mounted at the proper position to the
28 windshield glass of a vehicle.

1 Claims 3 (original): The MSC device according to claim 2, wherein the proper positions of
2 the windshield glass are mounted at the highest position for better wireless
3 communication and with GPS planar antenna facing the sky and better visual
4 recording positions of a vehicle.
5

6 Claim 4 (original): The MSC device according to claim 1, an electronic circuit IC (Integrated
7 Circuit) package in a SOC (System On Chip) form that comprising:
8 a RISC CPU central control module;
9 a digital signal processing part of GPS receiver module;
10 a digital signal processing part of wireless Communication module;
11 a digital camera pixel bus with JPEG/MPEG compression circuit module;
12 a plurality UART serial I/O ports;
13 a flash memory;
14 a plurality USB host and device control ports;
15 an Ethernet communication circuit.

16 Claim 5 (original): The MSC device according to claim 1, wherein a wireless
17 communication module that includes but is not limited to GMS, CDMA, 802.11,
18 MURS, FRS, GMRS, HAM, CB radio communication with planar antennas
19 embedded into the vehicle's rearview or side mirror.
20

21 Claim 6 (original): The MSC device according to claim 2, wherein a wireless
22 communication module that includes but is not limited to GMS, CDMA, 802.11,
23 MURS, FRS, GMRS, HAM, CB radio communication with planar antennas
24 embedded into stand-alone unit is mounted at the proper position to the windshield
25 glass of a vehicle.
26

27 Claim 7 (original): The MSC device according to claim 5, wherein a printed circuit trace (FR-
28 4) antenna, a ceramic chip antenna or a PIFA antenna of the wireless communication
is applied to the rearview/side mirror of a vehicle.

1
2 Claim 8 (original): The MSC device according to claim 6, wherein a printed circuit trace (FR-
3 4) antenna, a ceramic chip antenna or a PIFA antenna of the wireless communication
4 applied to a stand-alone unit which is mounted at the proper position to the
5 windshield glass of a vehicle.

6
7 Claim 9 (original): The MSC device according to claim 1, wherein a printed circuit (FR-4)
8 trace antenna, multi-layer ceramic chip antenna or PIFA antenna of a GPS receiver is
9 glued on the windshield glass with a pig-tail coax cable connected to the GPS
10 receiver module.

11 Claim 10 (original): The MSC device according to claim 9, further the planar antenna of
12 preferred ceramic chip antenna forming into the attachment part of a rearview mirror
13 that sticks on the windshield glass, holds the GPS chip antenna for better reception of
14 GPS signals.

15
16 Claim 11 (original): The MSC device according to claim 1, wherein a contact or a contactless
17 Smart Card reader device is embedded into the rearview/side mirror of a vehicle that
18 serves as a second key for an anti-car-theft device.

19
20 Claim 12 (original): The MSC device according to claim 2, wherein a contact or a contactless
21 Smart Card reader device is embedded into a stand-alone unit that serves as a second
22 key for an anti-car-theft device.

23 Claim 13 (original): The MSC device according to claim 5, wherein the wireless
24 communication module controlled by the central control that serve as a radio
25 beacon for car theft alarm, emergency help beacon, receiving internet data
26 communication signals that includes but is not limited to data/voice/video
27 information, earth-quake alarm, tornado alarm, enemy attack alarm and wireless
28 broadband communication terminal to a PC, notebook PC or PDA.

1 Claim 14 (original): The MSC device according to claim 1, wherein a Flash memory storage
2 embedded into the rearview/side mirror of a vehicle in the form of Smart Media
3 Card, Compact Flash Card, Secure Digital Card, Multi-Media Card or plan Flash
4 memory IC soldered in the PCB of a MSC.

5
6 Claim 15 (original): The MSC device according to claim 1, wherein an Ethernet
7 Communication Outlet is implanted in the rearview/side mirror of a vehicle.

8
9 Claim 16 (original): The MSC device according to claim 2, wherein an Ethernet
10 Communication Outlet is implanted in the stand-alone unit version of MSC device.

11 Claim 17 (original): The MSC device according to claim 1, wherein both the USB host and
12 USB device outlets are embedded in the rearview/side mounted mirror of a vehicle.

13
14 Claim 18 (original): The MSC device according to claim 2, wherein both the USB host and
15 USB device outlets are embedded into the stand-alone version of MSC device.

16
17 Claim 19 (original): The MSC device according to claim 1, further with the USB/Ethernet
18 outlet and the connection, between a MSC host to the mass storage Hard Disk for
19 the commercial vehicle, records long periods of driving via the USB or an Ethernet
20 interface.

21 Claim 20 (original): The MSC device according to claim 1, wherein both the front-view and
22 rearview wide-angle view lenses are embedded into the rearview/side mirror in a
23 camouflaged method where the LED flash turns on when camera shuts during the
24 night or dark moment.

25
26 Claim 21 (original): The MSC device according to claim 19, wherein a multiplexer circuit that
27 selects among plurality of CCD/CMOS lenses for digital camera compression module
28 to reduce the redundancy of MPEG/JPEG compression circuit.

1 Claim 22 (original): The MSC device according to claim 19, wherein the wide angle view of
2 the lenses is equalized to compensate the driver's head and rearview which resides
3 behind the rearview mirror where portions of the reflecting material is processed in
4 a way such that the light reflects less for visual recording.

5
6 Claim 23 (original): The MSC device according to claim 1, wherein the operation method of
7 the MSC functions including:
8 a vehicle accident emergency alarm activation;
9 an anti-theft alarm activation;
10 a voice/motion recording scheme coordinated with the MSC motion
11 sensor/gauge;
12 a digital video recording scheme coordinated with the MSC motion
13 sensor/gauge;
14 an earthquake, tornado and enemy attack warning scheme;
15 a built-in Flash Memory of MSC downloaded to USB mobile driver to
16 retrieve the video/voice/motion recording when an external USB
17 mobile driver is plugged in to the MSC USB device outlet;
18 the transferring from DRAM to Flash memory when vehicle power off
19 and built-in Lithium-ion battery kicked on;
20 MSC device works as a USB wireless communication adaptor when
21 connected to a USB host such as a laptop PC for wireless
22 communication;
23 MSC device works as a USB GPS receive adaptor when connected to a USB
24 host such as a laptop PC for mapping and display;
25 MSC device as a USB voice communication adaptor when connected to a USB host
26 such as a laptop PC;
27 MSC device as a USB digital camera adaptor when connected to a
28 USB host such as a laptop PC;

1 Claim 24 (original): The MSC device according to claim 1, wherein a double spring
2 attached metal ball based acceleration/de-acceleration sensor/gauge for detecting
3 and measuring the acceleration, de-acceleration, vibration and flip over conditions
4 of a vehicle.

5
6 Claim 25 (original): The MSC device according to claim 24, further comprising a micro-
7 controller to identify significant instances to the central control module to coordinate
8 the video/voice/motion recording and alarm/emergency activation. This micro-
9 controller also takes the vehicle's speedometer input to consolidate with the motion
10 gauge/sensor to record more complete vehicle motion data in the Flash memory.

11 Claim 26 (original): The MSC device according to claim 1, wherein the USB interfaces for
12 connecting between the central control to the multiple MSC peripheral modules
13 comprising:

14 a wireless communication module with USB interface;

15 a voice communication and compression module with USB interface;

16 a multiple CCD/CMOS lenses with single JPEG/MPEG compression module
17 with USB interface;

18 USB outlet to external MSC devices;

19
20
21 Claim 27 (**canceled**): The MSC device according to claim 26, wherein the Central Control
22 utilized a Samsung RISC CPU S3C2410X and GPS module utilized a ST Micro-
23 electronics STB5610, ST20-GPS chip set and wireless communication module
24 utilized a TI TNETTW1100B and JPEG/MPEG compression utilized a DIVIO
25 NW800 and voice communication module utilized Tiger Jet ST560 and USB hub
26 controller utilized the ATMET AT43312 to compose the main electronics parts of
27 MSC.
28

1
2 With the foregoing amendments, it is submitted that the present application is in
3 condition for allowance, and such action is requested.
4

5 Dated: Nov. 03, 2004

Respectfully,

6
7 By: 

8 Jen-Feng (Jeff) Lee
9 Attorney for Applicant
10 Tel: 626-810-7200
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27
28